

**Fresh coarsely ground meat products -
specification**

PUBLIC REVIEW DRAFT, OCTOBER 2018

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The following organizations were represented on the Technical Committee.

Ministry of Health- food safety unit
Kenya Industrial Research and Development Institute
National Public Health Laboratory
Government Chemists Department
Farmer's Choice (K) Ltd.
University of Nairobi — Department of Food Science, Nutrition and Technology
Consumer Information Network
Kenchic (K) Ltd.
Kenya Meat Commission
Directorate of Livestock Production
Directorate of Veterinary Services
Kenya Nut Company- Morendat farm
Meat Training institute
Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

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KENYA STANDARD

Fresh coarsely ground meat products - specification

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Foreword

This Kenya Standard was prepared by the Meat and Poultry Products Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

The demand for minimally processed and processed meat products such as minced meat, meat balls, meat burgers, meat rolls and ground kebabs that are intended for further cooking before consumption has increased tremendously over the years.

In order to assure the general public of the safety and quality of these categories of products, it has been found necessary to develop this standard. It is envisioned that this first edition of the standard will go a long way in safeguarding public health and enhance food safety.

During the preparation of this standard, reference was made to the following documents:

The Food, Drugs and Chemical Substances Act, Cap 254 of the Laws of Kenya.

International Commission on Microbiological Specifications for Foods - Micro-organisms in Foods, Book 8.

Fresh coarsely ground meat products - specification

1. Scope

This standard prescribes the quality and safety requirements, methods of sampling and test of fresh coarsely ground meat products. These include, but not limited to, meat balls, patties, meat burgers, meat rolls and ground kebabs that are intended for further processing before consumption.

2. Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- I. *Food, Drugs and Chemical Substances Act Cap 254.*
- II. *Public Health Act CAP 242*
- III. *Meat Control Act, Cap. 356 of the Laws of Kenya,*
- IV. *KS EAS 39 - Hygiene in the food and drink manufacturing industry - Code of practice.*
- V. *KS 2761 code of practice for meat hygiene*
- VI. *KS EAS 35 potable water specification*
- VII. *KS EAS 12 potable water specification*
- VIII. *Codex Stan192 codex general standard for food additives*
- IX. *KS ISO 4833-1: Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms -- Part 1: Colony count at 30 degrees C by the pour plate technique*
- X. *KS ISO 6888-1: Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) -- Part 1: Technique using Baird-Parker agar medium*
- XI. *KS ISO 6579: Microbiology of the food chain -- Horizontal method for the detection, enumeration and serotyping of Salmonella -- Part 1: Detection of Salmonella spp.*
- XII. *KS ISO 16654:2001/Amd.1:2017(en)Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157 AMENDMENT 1: Annex B: Result of interlaboratory studies*
- XIII. *KS ISO 11290-1: Microbiology of the food chain -- Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. -- Part 1: Detection method*
- XIV. *ISO 10272-2: Microbiology of the food chain — Horizontal method for detection and enumeration of Campylobacter spp. — Part 2: Colony-count technique*
- XV. *KS EAS 38 Labelling of pre-packaged foods — General requirements*
- XVI. *KS 2763 Meat speciation - Method of test*

- XVII. *British standards EN14332, 14627, 14082, 14083, 14084*
 XVIII. *Association Of Official Analytical Chemists AOAC 999.10, 999.11, 973.34, 986.15, 971.21*
 XIX. *Codex Alimentarius Commission CAC/MRL 2*

3. Definitions

- 3.1. Meat:** All parts of an animal that are intended for and have been judged as safe and suitable for human consumption
- 3.2. Ground meat:** Boneless meat finely or coarsely chopped by a meat grinder or chopping knife leading to its reduction into fragments
- 3.3. Minimum meat content:** The minimum permissible amount of meat together with fats and connective tissue for a particular species.
- 3.4. Maximum fat content:** The amount of fat permissible in a meat mixture for a particular species.
- 3.5. Patty:** Disc-like meat products formed from ground meat.
- 3.6. Fillers:** These are mostly plant substances, low in protein and high in carbohydrates that are used in increasing the product volume.
- 3.7. Binders:** agents that are mixed homogeneously in the processing to help in the structural consistency of the meat product.

4. Requirements

4.1. General requirements

- 4.1.1.** The meat from which the product is prepared shall be of a quality suitable for human consumption and free from objectionable odours.
- 4.1.2.** The product shall be prepared, handled and delivered under hygienic conditions.
- 4.1.3.** The product shall be prepared in a facility which is complying with KS EAS 39.

4.2. Raw material requirements

4.2.1. Meat

Meat shall be derived from animals slaughtered in a hygienically managed slaughter house complying with KS 2761.

4.2.2. Optional Ingredients

All optional ingredients used shall be of food grade quality and conform to applicable Kenyan Standards.

4.2.2.1. Fillers and binders

- 4.2.2.1.1.** carbohydrates such as but not limited to meal, flour or starch prepared from grain, potato or sweet potato; bread, biscuit rusk or bakery products;
- 4.2.2.1.2.** proteins such as milk powder, skim milk powder, butter milk powder, caseinate, whey powder, egg protein, dried blood products,

vegetable protein products;

- 4.2.2.2. Sucrose, invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup).
- 4.2.2.3. Spices, seasonings and condiments complying with respective Kenya Standards.
- 4.2.2.4. Salt complying with KS EAS 35
- 4.2.2.5. Water complying with KS EAS 12
- 4.2.2.6. Food additives used in the fresh coarsely ground meat products shall be in accordance with the Food, Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya and Codex GSFA.

5. Essential Composition and Quality Requirements

Fresh coarsely ground meat products shall comply with the requirements in Table 1.

Table 1— Compositional Requirements for fresh coarsely ground meat products.

| SL No. | Characteristic | Limit for final product (raw),% | Test Method |
|--------|--------------------------|---------------------------------|-------------|
| I. | Total meat Content, Min. | 50 | KS 166 |
| II. | Fat Content, Max. | 30 | |
| III. | Total Ash, Max. | 3.0 | |

6. Hygiene requirements

- 6.1. Fresh coarsely ground meat shall be prepared, handled and stored in accordance with the appropriate sections of KS EAS 39 and KS 2761
- 6.2. All workers shall use appropriate personal protective equipment that does not contaminate the product.
- 6.3. All workers shall undergo a food handlers test before their deployment and every so often as per the Public Health Act Cap 242 and Food, Drugs and Chemical substances Act Cap 254.
- 6.4. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled and/or dirty equipment or from persons suffering from injuries.
- 6.5. All equipment coming into contact with raw material or product in the course of manufacture shall be kept clean.
- 6.6. Adequate supply of running potable water that complies with EAS 12 and/or steam/boiling water, brushes, and other equipment necessary for proper cleaning of machinery/equipment shall be available.
- 6.7. The equipment shall be cleaned, sanitised and/or disinfected using an appropriate food grade agent or with hot water at a temperature above 82 °C.

7. Safety requirements

7.1. Microbiological limits

Fresh coarsely ground meat shall comply with the microbiological requirements given in Table 2

Table 2: Microbiological limits for fresh coarsely ground meat products

| SL No. | Micro-organism | Max. limits | Test method |
|--------|--|------------------|----------------|
| 1) | Aerobic colony count – cfu/g | <10 ⁷ | KS ISO 4833 |
| 2) | E. coli O157:H7 | Absent in 25 g | KS ISO 16654 |
| 3) | <i>Coagulase positive Staphylococcus aureus</i> , cfu/ g | 10 ³ | KS ISO 6888-1 |
| 4) | <i>Salmonella ssp</i> | Absent in 25 g | KS ISO 6579 |
| 5) | <i>Listeria monocytogenes</i> | Absent in 25 g | KS ISO 11290-1 |
| 6) | <i>Campylobacter-poultry products</i> for | Absent in 25 g | ISO 10272-2: |

8. Veterinary drug residues

The products covered by this standard shall comply with the maximum residue limits specified in CAC/MRL 2- Maximum Residue Limits for Veterinary Drugs in Food. When analyzed by the appropriate approved methods, the products shall not contain any antibiotics above the approved limits.

9. Limits for heavy metal contaminants

Fresh coarsely ground meat products shall not contain heavy metal contaminants in excess of the limits given in Table 3 when tested by methods mentioned therein.

Table 3: Limits for heavy metal contaminants

| SL No. | Contaminants limits | Maximum limits Ppm | Test methods |
|--------|---------------------|--------------------|--|
| I. | Arsenic (Ar) | 0.1 | AOAC 986.15 EN14332, 14627 |
| II. | Lead (Pb) | 0.1 | AOAC 999.10, 999.11, 986.15 EN14082, 14083,14084 |
| III. | Cadmium(Cd) | 0.05 | AOAC 986.15, 999.11,973.34 EN 14082,18083,14084 |
| IV. | Mercury(Hg) | 0.03 | AOAC 971.21 |

*Note: where a risk assessment indicated the possibility of occurrence of other heavy metal contaminants not listed, then the product shall be tested.

10. Meat identification

The identification/isolation of meat species shall be done according to KS 2763 or any other validated test method.

11. Packaging and labeling

11.1. Packaging

Packaging shall be done in food grade packaging materials that protect the product from any physical, microbiological, chemical or any other type of contamination during handling, storage and distribution.

The packages shall be able to withstand the rigors of handling and transportation and shall not be exposed to direct sun or rain.

For the burgers, food grade separators shall be used in layer packing of patties.

11.2. Labelling

Labelling of packages shall be done in accordance with the requirements stipulated in EAS 38, Labelling of pre-packaged food and shall include the following:

- a) Description /Name of the product as appropriate
- b) List of ingredients in descending order
- c) Allergens declaration
- d) Name, location and address of manufacturer
- e) Net weight, in metric units
- f) Declaration as “raw” product
- g) Declaration of minimum meat content and maximum fat content by %
- h) Date of manufacture
- i) Expiry date
- j) Batch number
- k) Instructions for use (must inform the end-user to cook the product for e recommended period of time before consumption)
- l) Storage conditions and temperature of storage
- m) Country of origin or “Made in Kenya” for locally manufactured products.